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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/827,131	04/05/2001	Graham Mensa-Wilmot	05516.088001	4894
22511	7590	04/06/2004	EXAMINER	
OSHA NOVAK & MAY L.L.P. 1221 MCKINNEY STREET HOUSTON, TX 77010			PETRAVICK, MEREDITH C	
			ART UNIT	PAPER NUMBER
			3671	
DATE MAILED: 04/06/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/827,131

Applicant(s)

MENSA-WILMOT ET AL.2

Examiner

Meredith C Petravick

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,4-10,12-18 and 20-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,4-10,12-18 and 20-27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10/10/02 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |  |
|---|--|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

2. Claim 28 is rejected under 35 U.S.C. 102(e) as being anticipated by Sinor 6,302,223 B1.

Sinor discloses a drill bit comprising:

- a bit body (12) with blades (14)
- polycrystalline diamond (Column 7, line 2) compact cutting element (160)  
including a substrate and polycrystalline diamond layer (Fig. 4).

The polycrystalline diamond compact cutting elements “of relatively large diameter, such as 19 mm ( $\approx$  0.75 inch) or 25 mm ( $\approx$  1 inch).” (Column 7, line 14-16). This broad statement discloses the claimed range with sufficient specificity to anticipate the claims. Sinor discloses that a large diameter bit is used and the specific examples of what a large diameters in the range of large diameter bits. Further, when the diameters were converted from mm to inches, they were

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rounded and not given exactly. Also, the specification gives no evidence of unexpected results within the claimed range. See MPEP 2131.03.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. If applicant disagrees with the rejection under 35 U.S.C. 102, Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sinor in the alternative.

Sinor discloses a drill bit comprising:

- a bit body (12) with blades (14)
- polycrystalline diamond (Column 7, line 2) compact cutting element (160)  
including a substrate and polycrystalline diamond layer (Fig. 4).

However, Sinor discloses the polycrystalline diamond compact cutting elements having a "relatively large diameter, such as 19 mm ( $\approx$  0.75 inch) or 25 mm ( $\approx$  1 inch)." (Column 7, line 14-16) instead of a range greater than 20 mm but less than 25 mm.

"A prima facie case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough that one skilled in the art would have expected them to have the same properties. *Titanium Metals Corp. of America v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985) (Court held as proper a rejection of a claim directed to an alloy of "having 0.8% nickel, 0.3% molybdenum, up to 0.1% iron, balance titanium" as obvious over a reference

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disclosing alloys of 0.75% nickel, 0.25% molybdenum, balance titanium and 0.94% nickel, 0.31% molybdenum, balance titanium.)” See MPEP 2144.05.

It would have been obvious to one having ordinary skill in the art at the time the invention was made given the statement in Sinor that the cutting elements have a relatively large diameter, such as 19 mm or 25 mm, to make diameter greater than 20 mm but less than 25 mm. The statement in Sinor suggests that large diameter bit between 19 mm and 25 mm can be used.

#### *Allowable Subject Matter*

5. Claims 1, 4-10, 12-18, 20-27 are allowed.

#### *Response to Arguments*

6. Applicant's arguments filed 1/23/04 have been fully considered but they are not persuasive with respect to claim 28.

Applicant argues unexpected result because of an increase failure rate with thicker diamond tables. However, applicant's claimed range (i.e. greater than 20.0 mm but less than 25.0 mm) falls exactly within the disclosed range of 19 mm and 25 mm. Therefore, the Sinor reference discloses a thickness of a diamond table that is larger than what applicant claims.

#### *Conclusion*

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Meredith Petravick whose telephone number is 703-305-0047. The examiner can normally be reached on Monday-Thursday from 7:00 a.m. – 4:30 p.m.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas B. Will, can be reached at 703-308-3870.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the group receptionist whose telephone number is 703-305-1113. The fax number for this Group is 703-305-3597.

**Meredith Petravick**  
**Patent Examiner**  
**Group Art Unit 3671**

MCP  
September 22, 2003

  
**ROBERT E. PEZZUTO**  
**PRIMARY EXAMINER**